

Application No. 10/786,240
Amendment "A" and Response dated May 4, 2006
Reply to Office Action mailed February 7, 2006

REMARKS

I. Background

The present Amendment is in response to the Examiner's Office Action mailed February 7, 2006. Claims 1, 5, 6, 8, 11, 12, 14, 17, and 18 have been amended, claim 2 has been cancelled, claims 7, 13, and 19-25 have been withdrawn, and no new claims have been added. Claims 1, and 3-6, 8-12, and 14-18 are now pending for consideration.

Reconsideration of the application is respectfully requested in view of the above amendments to the claims and the following remarks. For the Examiner's convenience and reference, Applicant's remarks are presented in the order in which the corresponding issues were raised in the Office Action.

Please note that the following remarks are not intended to be an exhaustive enumeration of the distinctions between any cited references and the claimed invention. Rather, the distinctions identified and discussed below are presented solely by way of example to illustrate some of the differences between the claimed invention and the cited references. In addition, Applicant requests that the Examiner carefully review any references discussed below to ensure that Applicant's understanding and discussion of the references, if any, is consistent with the Examiner's understanding.

II. Proposed Claim Amendments

Please amend the claims in the manner indicated above, where an underline represents new text, and strikeouts are used to indicate deleted text. The amendment to claims 1, 5, 6, 8, 11, 12, 14, 17, and 18 are fully supported by the figures, chemical structures, specification, claims, and combinations thereof as originally filed. More particularly, the amendments to the claims do not present new matter for the same reasons the amendments to the specification do not present new matter. In view of the foregoing discussion, Applicant submits that the amendments to the claims do not introduce new matter and entry thereof is respectfully requested.

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III. Rejection on the Merits

A. Rejections Under 35 U.S.C. § 103

The Examiner rejects claims 7-11 and 14-15 under 35 U.S.C. § 103 as being unpatentable over *Keller et al. Helvetica Chimica Acta* (1975), 58(2), 531-41 (hereinafter "*Keller*") in view of Organic Chemistry by *McMurry* 2nd edition on page 727, section 20.8, reduction of carboxylic acids to alcohol by LiAlH_4 (hereinafter "*McMurry*"). The Applicant respectfully traverses the rejection of claims 7-11 and 14-15 because the Office Action has not established a *prima facie* case of obviousness.

According to the applicable law, a claimed invention is unpatentable for obviousness if the differences between it and the prior art "are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art." 35 U.S.C. § 103(a) (2005); *Graham v. John Deere Co.*, 383 U.S. 1, 14 (1966); MPEP 2142. Obviousness is a legal question based on underlying factual determinations including: (1) the scope and content of the prior art, including what that prior art teaches explicitly and inherently; (2) the level of ordinary skill in the prior art; (3) the differences between the claimed invention and the prior art; and (4) objective evidence of nonobviousness. *Graham*, 383 U.S. at 17-18; *In re Dembiczak*, 175 F.3d 994, 998 (Fed. Cir. 1999). It is the initial burden of the PTO to demonstrate a *prima facie* case of obviousness, which requires the PTO to show that the relied upon references teach or suggest all of the limitations of the claims. MPEP 2142 (emphasis added).

According to MPEP section 2143:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in applicant's disclosure. *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)."

(Emphasis added).

As indicated by the Examiner, *Keller* teaches a chemical compound that has the formula shown on page 5 of the Office Action. However, *Keller* does not teach a relevant method of

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synthesis of the chemical compound or a relevant use of the chemical compound. Moreover, *Keller* does not teach or suggest any method of reacting the carboxyl group into a different functional group, or provide any suggestion or motivation for reacting the carboxyl group.

As indicated by the Examiner, *McMurry* teaches a method of converting --COOH to CH_2OH (hereinafter "conversion reaction"). However, *McMurry* does not teach or suggest that the chemical of *Keller* can be modified by the conversion reaction. Additionally, *McMurry* does not teach or suggest the conversion reaction can be performed on a molecule substantially similar as the chemical compound of *Keller*.

1. Hindsight

In response to the combination of *Keller* and *McMurry*, Applicant reasserts that hindsight has been used to make the combination of references. This is because the material in an application will often seem obvious in light of the prior art once the Applicant's disclosure is known. The opportunity to judge an application by hindsight is particularly tempting. Consequently, the tests of whether to combine references need to be applied rigorously. See *In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999), limited on other grounds by *In re Gartside*, 203 F.3d 1305, 53 USPQ2d 1769 (2000) (guarding against falling victim to the insidious effect of a hindsight syndrome wherein that which only the invention taught is used against its teacher).

Accordingly, Applicant respectfully asserts that Examiner's combination of a reference (*i.e.*, *Keller*) that teaches a specific chemical compound with a reference (*i.e.*, *McMurry*) teaching a specific conversion reaction could only be made after reviewing the Applicant's disclosure and using hindsight. In fact, neither *Keller* nor *McMurry* teaches the claimed class of chemical compounds, and further do not teach a method of synthesizing the same. Thus, Applicant's application for patent had to be used to determine the specific reagent of *Keller* and the specific conversion reaction of *McMurry* because absent the Applicant's application for patent the product of the conversion reaction is not taught or suggested.

In view of the foregoing, Applicant respectfully requests the rejection to claims 1-6 be withdrawn due to the Examiner's use of hindsight to reconstruct the Applicant's claimed invention.

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2. No Suggestion or Motivation for Combination

Applicant respectfully asserts that a *prima facie* case of obviousness has not been established. In part, this is because there is no suggestion or motivation arising from *Keller* and *McMurry*, alone or in combination, to make such a combination of references. It is known that just because different elements of an invention may be found in different references does not allow for a combination of such references to reconstruct the Applicant's invention. Accordingly, the Court has stated that "[t]he genius of invention is often a combination of known elements which in hindsight seems preordained. To prevent hindsight invalidation of patent claims, the law requires some "teaching, suggestion or reason" to combine cited references. *Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573, 1579, 42 USPQ2d 1378, 1383 (Fed. Cir. 1997). Correspondingly, disclosure of a specific chemical compound does not alone provide any motivation or suggestion to combine such a chemical compound with a conversion reaction to convert the chemical compound into a specific analog.

As stated above, *Keller* only teaches a specific chemical compound. Nothing in *Keller* teaches or suggests any modifications, substitutions, or derivations of the chemical compound to obtain the Applicant's claimed chemical compound. Additionally, nothing in *McMurry* teaches or suggests applying the conversion reaction to any specific chemical compound to get a specific analog. Specifically, nothing in *McMurry* teaches or suggests applying the conversion reaction to the chemical compound of *Keller* to arrive at the Applicant's claimed class of compounds. Therefore, there is no motivation to combine the teachings of *Keller* with the teachings of *McMurry*.

Since there is no suggestion or motivation arising from either reference to make the proposed combination of references, a *prima facie* case of obviousness has not been established. As such, Applicant respectfully requests the rejection of claims 1-6 be withdrawn.

B. Rejections Under 35 U.S.C. § 112: Written Description Requirement

The Examiner rejects claims 1, 2, 5, 6, 8, 9, 11, 12, 14, 15, 17, and 18 under 35 U.S.C. § 112 first paragraph, as failing to comply with the written description requirement. The Applicant respectfully traverses the rejection because the specification describes the claimed chemical compounds with sufficient clarity and in such a way as to reasonably convey to one skilled in the

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art that the claimed invention was in the possession of the Applicant at the time of filing the application for patent.

With respect to claim 1, Applicant has amended the independent claim to include chemical formulas for 4-iodobutylphosphonic acid and 6-phosphonhexanoid acid, which Examiner identified as working examples. Thus, Applicant respectfully requests the rejection of claims 1, 5, and 6 be withdrawn.

With respect to claims 8, 9, 11, 12, 14, 15, 17, and 18, Applicant respectfully asserts that the application complies with the written description requirement. Also, there is a strong presumption that an adequate written description of the claimed invention is present when the application is filed. *In re Wertheim*, 541 F.2d 257, 263, 191 USPQ 90, 97 (CCPA 1976) ("we are of the opinion that the PTO has the initial burden of presenting evidence or reasons why persons skilled in the art would not recognize in the disclosure a description of the invention defined by the claims"). Applicant contends that the chemical structures of the claims were adequately presented in the specification as filed. In part, this is because Applicant can show possession of the claimed invention by describing the claimed invention with all of its limitations using such descriptive means as words, structures, figures, diagrams, and formulas that fully set forth the claimed invention. *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966 (Fed. Cir. 1997). This can include showing the invention was ready for patenting such as by the disclosure of drawings or structural chemical formulas that show the invention was complete. *See, pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 68, 119 S.Ct. 304, 312, 48 USPQ2d 1641 1647 (1998). As such, the specification, including the figures and chemical structures, shows Applicant was in possession of the claimed invention at the time of filing the application. Moreover, the spectrographic data provided in the application show possession of the invention at the time of filing the application.

Additionally, the Examiner asserts that specification does not comply with the written description requirement because the specific methods of making the class of compounds are not explicitly set forth. However, Applicant respectfully points to paragraph [0062] and Example 9 at paragraph [0091]. Also, "the law is clear that patent documents need not include subject matter that is known in the field of the invention and is in the prior art, for patents are written for persons experienced in the field of the invention. ... To hold otherwise would require every

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patent document to include a technical treatise for the unskilled reader." *S3 Inc. v. nVIDIA Corp.*, 259 F.3d 1364, 1371, 59 USPQ2d 1745, 1749-50 (Fed. Cir. 2001) citing *Vivid Technologies, Inc. v. American Science and Engineering, Inc.*, 200 F.3d 795, 804, 53 USPQ2d 1289, 1295 (Fed. Cir. 1999) ("patents are written by and for skilled artisans"). Accordingly, from the specification one of ordinary skill in the art would be capable of making the claimed class of compounds, and the details of well-known chemical reactions do not need to be explicitly recited.

Moreover, Examiner references Example 9 (*i.e.*, paragraph [0091]) as an example of the method of making 4-iodobutylphosphonic acid and 6-phosphonhexanoid acid. Also, 4-iodobutylphosphonic acid and 6-phosphonhexanoid acid are not so different from the claimed chemical formulas, and one of ordinary skill in the art would be capable of making the class of compounds with the chemical formulas depicted in the specification and Example 9 in hand.

Since the specification, including the figures and chemical structures that correlate with the spectrographic data, shows Applicant was in possession of the claimed invention at the time of filing the application, Applicant respectfully asserts that the written description requirement is fully complied with. Thus, Applicant respectfully requests the rejection of claims 8, 9, 11, 12, 14, 15, 17, and 18 be withdrawn.

C. Rejections Under 35 U.S.C. § 112: Enablement Requirement

The Examiner rejects claims 3, 4, 10, and 16 under 35 U.S.C. § 112 first paragraph, as failing to comply with the enablement requirement. The Applicant respectfully traverses the rejection because the Applicant has described the claimed chemical compounds with sufficient clarity and in such a way as to enable one skilled in the art to which it pertains to make and/or use the claimed chemical compounds at the time of filing the application for patent.

With respect to claims 3 and 4, which depend from independent claim 1, Applicant has amended the independent claim to include chemical formulas for 4-iodobutylphosphonic acid and 6-phosphonhexanoid acid, which Examiner identified as working examples. Thus, Applicant respectfully requests the rejection of claims 3 and 4 withdrawn.

With respect to claims 10 and 16, Applicant respectfully asserts that the application complies with the enablement requirement. It is well known that a patent must contain a

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description that enables one skilled in the art to make and use the claimed invention. *Atlas Powder Co. v. E. I. Du Pont de Nemours & Co.*, 750 F.2d 1569, 1576, 224 USPQ 409, 413 (Fed. Cir. 1984). "An inventor need not, however, explain every detail since he is speaking to those skilled in the art." *In re Howarth*, 654 F.2d 103, 105, 210 USPQ 689, 691 (CCPA 1981). "Not every last detail is to be described, else patent specifications would turn into production specifications, which they were never intended to be." *In re Gay*, 309 F.2d 769, 774, 135 USPQ 311, 316 (CCPA 1962). "That some experimentation is necessary does not preclude enablement; the amount of experimentation, however, must not be unduly extensive." *Atlas Powder*, 750 F.2d at 1576, 224 USPQ at 413. *See also W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1557, 220 USPQ 303, 316 (Fed. Cir.), *cert. denied*, 105 S. Ct. 172 (1984); *In re Angstadt*, 537 F.2d 498, 503, 190 USPQ 214, 218 (CCPA 1976). The specification provides teachings such that one of ordinary skill in the art would be capable of making and using the claimed class of compounds, and the details of well-known chemical reactions do not need to be explicitly recited. Specifically, paragraph [0062] and Example 9 at paragraph [0091] provide enablement for making the claimed class of chemical compounds, which are adequately depicted and described within the specification. Thus, the enablement requirement has been satisfied.

Moreover, Examiner references Example 9 (*i.e.*, paragraph [0091]) as an example of the method of making 4-iodobutylphosphonic acid and 6-phosphonhexanoic acid. Also, 4-iodobutylphosphonic acid and 6-phosphonhexanoic acid are not so different from the originally claimed chemical formula, and one of ordinary skill in the art would be capable of making the class of compounds with the chemical formulas depicted in the specification and Example 9 in hand. As such, with the chemical formulas and Example 9 in hand, one of ordinary skill in the art would be enabled to practice the claimed invention.

Since the specification, including the figures and chemical structures that correlate with the spectrographic data, shows one of ordinary skill in the art to which the claimed invention pertains to make and/or use the claimed chemical compounds at the time at the time of filing the application, Applicant respectfully asserts that the enablement requirement is fully complied with. Thus, Applicant respectfully requests the rejection of claims 10 and 16 be withdrawn.

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D. Rejections Under 35 U.S.C. § 112: Written Description Requirement

The Examiner rejects claims 1, 8, and 14 under 35 U.S.C. § 112 second paragraph, as failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. In response, Applicant has amended the claims to satisfy the Examiner's position.


The Examiner asserted that the factor "n" is defined as an integer, which is any one of a set of unlimited numbers. Applicant has amended claims 8 and 14 such that "n" is defined as an integer of 5 or less. This corresponds with the specification which teaches and discloses a variety of chemical compounds within the claimed classes of chemical compounds that have "n" being 5 or less. In view of the foregoing, Applicant respectfully requests withdrawal of the rejection to claims 1, 8, and 14.

CONCLUSION

In view of the foregoing, Applicant believes the claims as amended are in allowable form. In the event that the Examiner finds remaining impediment to a prompt allowance of this application that may be clarified through a telephone interview, or which may be overcome by an Examiner's Amendment, the Examiner is requested to contact the undersigned attorney.

Dated this 4 day of May 2006.

Respectfully submitted,



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